



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,918	12/03/2001	Neil Gibson	TI-32968	7227

7590 12/24/2003

Dan Swayze
Texas Instruments Incorporated
P.O. Box 655474
M/S 3999
Dallas, TX 75265

EXAMINER

NGUYEN, LINH V

ART UNIT PAPER NUMBER

2819

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,918

Applicant(s)

GIBSON ET AL.

Examiner

Linh V Nguyen

Art Unit

2819

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/24/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,7,8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-19 is/are allowed.
- 6) ☒ Claim(s) 1,4,7,8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2819

Response to Amendment

1. This office action is in response to applicant's amendment received on 10/24/03. Claims 3, 5, 6 and 20 – 22, have been canceled. Claims 1, 4, 7, 8, and 10 - 19, are pending on this application.

Response to Arguments

2. Under remarks, applicant argued claims 1 and 4 of this application do not conflict the invention 1 and 4 of copending application 10005463 (now US patent No. 6,630,866). Examiner respectfully disagrees, because "gm" is the gain of transconductance amplifier (See Park U.S. 6,566,944, Col. 2 lines 24 – 25, teach that transconductance and gm are inherent of each other), therefore the subject matter "transconductance gm cell" of applicant's claimed invention is clearly conflict with invention "gm cell" of US patent No. 6,630,866).

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1 and 4, are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 6,630,866. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter of "transconductance gm cell" of applicant's claimed invention is clearly conflict with "gm cell" of claim 1 US.6,630,866 (See response to argument above).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 7 and, are rejected under 35 U.S.C. 102(b) as being anticipated by Uscategui (US5789982) from previous office action.

Regarding to claim 1, Fig. 2 Uscategui et al. disclose a low distortion feedback amplifier, the amplifier comprising: a pre-driver sub-stage and a final sub-stage, the pre-driver sub-stage having a plurality of transistors being biased by a plurality of current sources, the pre-driver sub-stage being adapted to accept a current signal (lin) from an input transconductance gm cell (Q1 – Q4 [element transconductance gm is inherent to small signal model of amplifier circuit]); the pre-driver stage being further

Art Unit: 2819

adapted to provide biasing to a plurality of transistors in the final sub-stage; and the pre-driver sub-stage being coupled to the final sub-stage (Q13, Q14) so as to provided current gain from input to output of $I_{out} = B_n \cdot B_p \cdot I_{in}$ (inherent from beta gain of each transistor);

Regarding to claim 4, wherein the plurality of transistors in the final sub-stage comprises 4 transistors (Q13, Q14) arranged as a complementary pair of differential transistors.

Regarding to claim 7, wherein the pre-driver sub-stage comprises two circuits, the first pre-driver sub-stage (top 26) circuit being adapted to condition a positive portion inputted signal for transfer to a first final sub-stage circuit (Q13) of the final sub-stage, and the second pre-driver sub-stage (bottom 26) circuit being adapted to condition a negative portion of an inputted signal for transfer to a second final sub-stage (Q14) circuit of the final sub stage; the first pre-driver sub-stage circuit being coupled to the first final sub-stage circuit operable to amplify the positive portion of a signal tandem (Fig. 2 [32]); and the second pre-driver sub-stage circuit being coupled to the second final sub-stage circuit operable to amplifying the negative portion of a signal tandem (Fig. 2 [32]).

Regarding to claim 8, wherein the first final sub-stage circuit and the second final sub-stage circuit are interconnected at an output terminal node (32) such that the conditioned and amplified positive portion the signal and the conditioned and amplified negative portion o t the signal are joined in phase with minimal crossover distortion the

Art Unit: 2819

output signal having the form $I_{out} = B_n \cdot B_p \cdot I_{in}$ (inherent from beta gain of each transistor).

Allowable Subject Matter

7. Claims 10 – 19, are allowed.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (703) 305-1934. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.

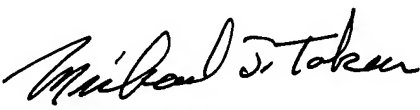
Art Unit: 2819

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (703) 305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are (703-872-9306) for regular communications and (703-872-9306) for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

LVN

December 16, 2003


Michael Tokar
Supervisory Patent Examiner
Technology Center 2800